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WE CLAIM:

1. (Twice Amended) A Mannich reaction product obtained by reacting (i) ortho-cresol having on the ring an aliphatic hydrocarbyl substituent derived from a polyolefin having a number average molecular weight in the range of about 900 to about 3000; (ii) dibutylamine; and (iii) at least one aldehyde.

2. The Mannich product of claim 1 wherein the product is formed by heating a mixture of (i), (ii) and (iii) at a temperature above about 40°C.

3. The Mannich product of claim 1 wherein the mole ratio of (i):(ii):(iii) is 1:0.8-1.5:0.8-1.5.

4. The Mannich product of claim 3 wherein the mole ratio of (i):(ii):(iii) is 1:0.9-1.2:0.9-1.2.

5. The Mannich product of claim 4 wherein the mole ratio of (i):(ii):(iii) is 1:1.0-1.15:1.0-1.15.

6. The Mannich product of claim 1 wherein the mole ratio of aldehyde (iii) to amine (ii) is 1.2:1 or less.

7. The Mannich product of claim 6 wherein the mole ratio of aldehyde (iii) to amine (ii) is 1.1:1 or less.

8. The Mannich product of claim 6 wherein the mole ratio of aldehyde (iii) to amine (ii) is 1.2:1 to 1:1.

9. (Amended) The Mannich product of claim 1 wherein the hydrocarbyl substituent on the ortho-cresol is derived from polypropylene, polybutylene or an ethylene alpha-olefin copolymer having a polydispersity in the range of about 1 to about 4.

14. The Mannich product of claim 13 wherein at least 20 percent of the terminal olefinic double bonds in the polybutylene are alkylvinylidene.

15. The Mannich product of claim 14 wherein at least 50 percent of the terminal olefinic double bonds in the polybutylene are alkylvinylidene.

16. The Mannich product of claim 15 wherein at least 70 percent of the terminal olefinic double bonds in the polybutylene are alkylvinylidene.

17. (Twice Amended) A fuel additive composition comprising:

a) a fuel soluble Mannich detergent/dispersant obtained by reacting (i) ortho-cresol having on the ring an aliphatic hydrocarbyl substituent derived from a polyolefin having a number average molecular weight in the range of about 900 to about 3000; (ii) dibutylamine; and (iii) at least one aldehyde; and

b) at least one liquid carrier for said Mannich detergent/dispersant in proportions such that for each part by weight of Mannich detergent/dispersant on an active ingredient basis there is in the range of about 0.3 to about 2.0 parts by weight of liquid carrier therefor.

18. The composition of claim 17 wherein the Mannich detergent/dispersant is produced by heating a mixture formed from (i), (ii) and (iii), at a temperature above about 40°C.

19. The composition of claim 17 wherein the mole ratio of (i):(ii):(iii) is 1:0.8-1.5:0.8-1.5.

20. The composition of claim 19 wherein the mole ratio of (i):(ii):(iii) is 1:0.9-1.2:0.9-1.2.

21. The composition of claim 20 wherein the mole ratio of (i):(ii):(iii) is 1:1.0-1.15:1.0-1.15.

22. The composition of claim 17 wherein the mole ratio of aldehyde (iii) to amine (ii) is 1.2:1 or less.

23. The composition of claim 22 wherein the mole ratio of aldehyde (iii) to amine (ii) is

1.1:1 or less.

24. The composition of claim 22 wherein the mole ratio of aldehyde (iii) to amine (ii) is 1.2:1 to 1:1.

25. The composition of claim 17 wherein the liquid carrier comprises at least one member selected from the group consisting of mineral oil, poly-α-olefin oligomers, poly(oxyalkylene) compounds, polyalkenes and mixtures thereof.

26. The composition of claim 25 wherein the liquid carrier comprises at least one fuel-soluble poly(oxyalkylene) compound.

27. The composition of claim 26 wherein said poly(oxyalkylene) compound comprises at least one poly(oxyalkylene) monool formed from 1,2-alkylene oxide and one or more primary alcohols having at least 8 carbon atoms per molecule.

28. The composition of claim 27 wherein said poly(oxyalkylene) monool comprises at least one poly(oxypropylene) monool formed from 1,2-propylene oxide and one or more primary alcohols having at least 8 carbon atoms per molecule.

29. The composition of claim 25 wherein said liquid carrier comprises a mixture of at least one polyalkene and at least one poly(oxyalkylene) compound.

30. The composition of claim 17 further comprising at least one inert hydrocarbon solvent that has a boiling point or boiling range below about 200°C.

31. (Amended) The composition of claim 17 wherein the hydrocarbyl substituent on the ortho-cresol is derived from polypropylene, polybutylene or an ethylene alpha-olefin copolymer having a polydispersity in the range of about 1 to about 4.

36. The composition of claim 17 wherein at least about 20 percent of the terminal olefinic double bonds in the polybutylene are alkylvinylidene.

37. The composition of claim 36 wherein at least about 50 percent of the terminal olefinic double bonds in the polybutylene are alkylvinylidene.

38. The composition of claim 37 wherein at least about 70 percent of the terminal olefinic double bonds in the polybutylene are alkylvinylidene.

39. A fuel composition for use in spark-ignition internal combustion engines comprising a spark-ignition fuel into which has been blended from about 5 to about 200 ptb of the Mannich product of claim 1.

40. (Twice Amended) A fuel composition for use in a spark-ignition internal combustion engine comprising a spark-ignition fuel into which has been blended:

a) a fuel soluble Mannich detergent/dispersant obtained by reacting (i) at least one di-substituted hydroxyaromatic compound having on the ring both (a) an aliphatic hydrocarbyl substituent derived from a polyolefin having a number average molecular weight in the range of about 500 to about 3000, and (b) a C_{1-4} alkyl; (ii) dibutylamine; and (iii) at least one aldehyde; and

b) at least one liquid carrier for said Mannich detergent/dispersant in proportions such that for each part by weight of Mannich detergent/dispersant on an active ingredient basis there is in the range of about 0.3 to about 2.0 parts by weight of liquid carrier therefor; wherein a) and b) are present in an amount at least sufficient to reduce or minimize the weight of intake valve deposits in a spark-ignition internal combustion engine operated on said fuel composition.

41. The fuel composition of claim 40 wherein the Mannich detergent/dispersant is produced by heating a mixture formed from (i), (ii) and (iii), at a temperature above about 40°C.

42. The fuel composition of claim 40 wherein the mole ratio of (i):(ii):(iii) is 1:0.8-1.5:0.8-1.5.

43. The fuel composition of claim 42 wherein the mole ratio of (i):(ii):(iii) is 1:0.9-1.2:0.9-1.2.

44. The fuel composition of claim 43 wherein the mole ratio of (i):(ii):(iii) is 1:1.0-1.15:1.0-1.15.

45. The fuel composition of claim 40 wherein the mole ratio of aldehyde (iii) to amine (ii) is 1.2:1 or less.

46. The fuel composition of claim 45 wherein the mole ratio of aldehyde (iii) to amine (ii) is 1.1:1 or less.

47. The fuel composition of claim 45 wherein the mole ratio of aldehyde (iii) to amine (ii) is 1.2:1 to 1:1.

48. The fuel composition of claim 40 wherein the liquid carrier comprises at least one member selected from the group consisting of mineral oil, poly-α-olefin oligomers, poly(oxyalkylene) compounds, polyalkenes and mixtures thereof.

49. The fuel composition of claim 48 wherein the liquid carrier is at least one fuel-soluble poly(oxyalkylene) compound.

50. The fuel composition of claim 49 wherein said at least one poly(oxyalkylene) compound is at least one poly(oxyalkylene) monool formed from 1,2-alkylene oxide and one or more primary alcohols having at least 8 carbon atoms per molecule.

51. The fuel composition of claim 50 wherein said at least one poly(oxyalkylene) monool is at least one poly(oxypropylene) monool formed from 1,2-propylene oxide and one or more primary alcohols having at least 8 carbon atoms per molecule.

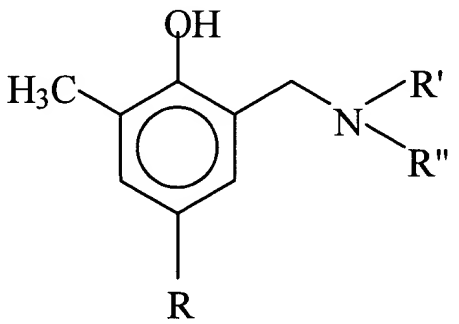
52. The fuel composition of claim 48 wherein said liquid carrier comprises a mixture of at least one polyalkene and at least one poly(oxyalkylene) compound.

53. (Amended) The fuel composition of claim 40 wherein the hydrocarbyl substituent on the ortho-cresol is derived from polypropylene, polybutylene or an ethylene alpha-olefin copolymer having a polydispersity in the range of about 1 to about 4.

57. A method of minimizing or reducing intake valve deposits in a spark-ignition internal combustion engine which comprises providing as fuel for the operation of said engine and operating said engine, a fuel composition in accordance with claim 40.

58. A method of minimizing or reducing intake valve sticking in a spark ignition internal combustion engine which comprises providing as fuel for the operation of said engine and operating said engine, a fuel composition in accordance with claim 40.

59. (Twice Amended) A composition of matter of the formula:



wherein R comprises a hydrocarbyl substituent having a number average molecular weight in the range of about 900 to about 3000; and R' and R" are each a butyl group.

63. The composition of matter of claim 59 wherein the hydrocarbyl substituent is derived

from polypropylene, polybutylene or an ethylene alpha-olefin copolymer having a polydispersity in the range of about 1 to about 4.

64. A fuel additive composition comprising:

a) the composition of matter of claim 59; and

b) at least one liquid carrier for said composition of matter in proportions such that for each part by weight of said composition of matter on an active ingredient basis there is in the range of about 0.3 to about 2.0 parts by weight of liquid carrier therefor.

65. A fuel composition for use in a spark-ignition internal combustion engine comprising a spark-ignition fuel into which has been blended:

a) a composition of matter according to claim 59; and

b) at least one liquid carrier for said composition of matter in proportions such that for each part by weight of said composition of matter on an active ingredient basis there is in the range of about 0.3 to about 2.0 parts by weight of liquid carrier therefor;

wherein a) and b) are present in an amount at least sufficient to reduce or minimize the weight of intake valve deposits in a spark-ignition internal combustion engine operated on said fuel composition.